Appendix A, Chapter 10
Oregon Spotted Frog

10.0 Oregon Spotted Frog *(Rana pretiosa)*

The Oregon spotted frog (*Rana pretiosa*) is a Pacific Northwest endemic recently differentiated from a close relative, the Columbia spotted frog (*Rana luteiventris*). Historically, the Oregon spotted frog occurred from southwestern British Columbia south to the northeast corner of California (Figure 10-1). In Washington, the Oregon spotted frog was historically found in the Puget Trough from the Canadian border to the Columbia River and east into the southern Washington Cascades. McAllister and Leonard (1997) developed a status report for the Oregon spotted frog in Washington state. The Oregon spotted frog is listed as endangered in the State of Washington and is a federal candidate for protection under the Endangered Species Act.

Oregon spotted frogs breed during late winter or early spring. The low-volume calls of the males resemble the sound of the distant tapping of a woodpecker. Females lay their eggs in traditional communal oviposition sites; areas of shallow, still or slow-moving water and sparse, emergent wetland vegetation. Eggs hatch in 18 to 30 days and the tadpoles grow and develop for 13 to 16 weeks prior to metamorphosis in mid-summer. Oregon spotted frogs mature and begin breeding at two or three years of age.

Oregon spotted frogs are preyed upon during all life stages by a wide variety of predators ranging from invertebrates that prey on eggs, to garter snakes (*Thamnophis spp*.) and herons (family Ardeidae) that feed on adults. Among the most significant of predators are various introduced species. Numerous warmwater fish species (primarily of the families Centrarchidae, Percidae, and Ictaluridae) and the bullfrog (*Rana catesbeiana*) have been introduced to waters within the historic range of the Oregon spotted frog. Because of their life histories and habitat affinities, these introduced species pose serious threats to Oregon spotted frog populations.

Oregon spotted frogs are almost entirely aquatic in habit, leaving the wetlands only occasionally and for short duration. Wetlands associated with lakes, ponds, and slow-moving streams can provide suitable habitat (Table 10-1). However, these aquatic environments must include a shallow emergent wetland component to be capable of supporting an Oregon spotted frog population. Historically, this critical element was found in the floodplains of many larger water bodies. Various emergent-wetland and floating aquatic plants are found in abundance in Oregon spotted frog habitat. Adult female and juvenile frogs, in particular, spend summers in relatively warm water of this shallow emergent wetland environment.

Historically, the shallow floodplain pools that Oregon spotted frogs inhabited were drained, diked and filled to accommodate human needs. In the Puget Sound lowlands, existing wetlands represent a small proportion of what was present in pre-settlement times. In addition, exotic plants like reed canarygrass (*Phalaris arundinacea*) have changed the character of many wetlands and reduced their value as habitat for Oregon spotted frogs.

The locations for 11 historical populations in Washington have been verified using museum specimen and published records (Figure 10-2). Only one historically known population and two recently discovered populations are known to remain in Washington. An additional 20 extant populations are known in Oregon and one in British Columbia. Based on an assessment of presence at historical localities, the species is estimated to have been lost from 78% of its former range. However, considering the broad former range suggested by the historical data, it is likely the species has actually been lost from over 90% of its former range.

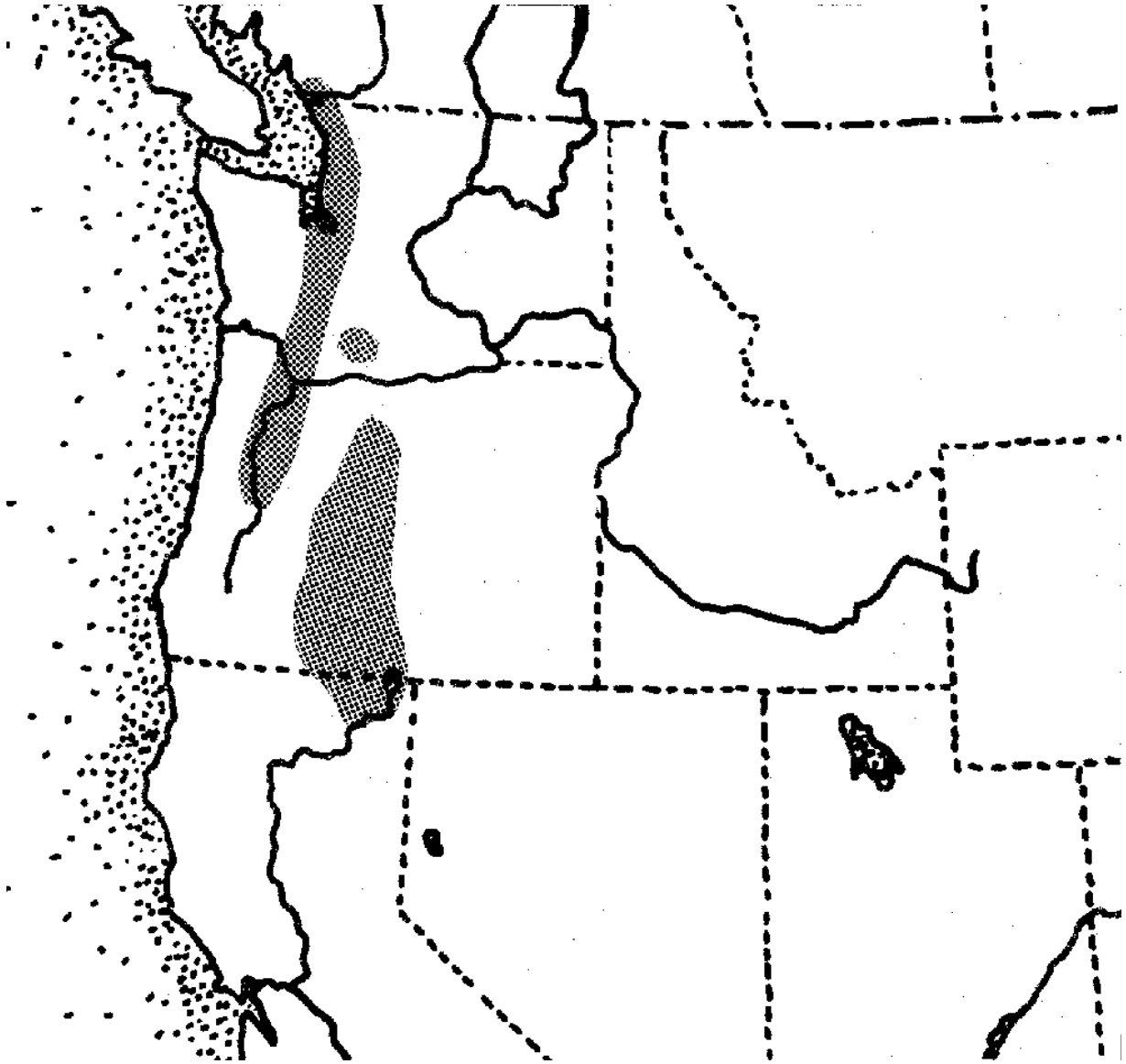

Figure 10-1. Range of the Oregon spotted frog (McAllister and Leonard 1997).

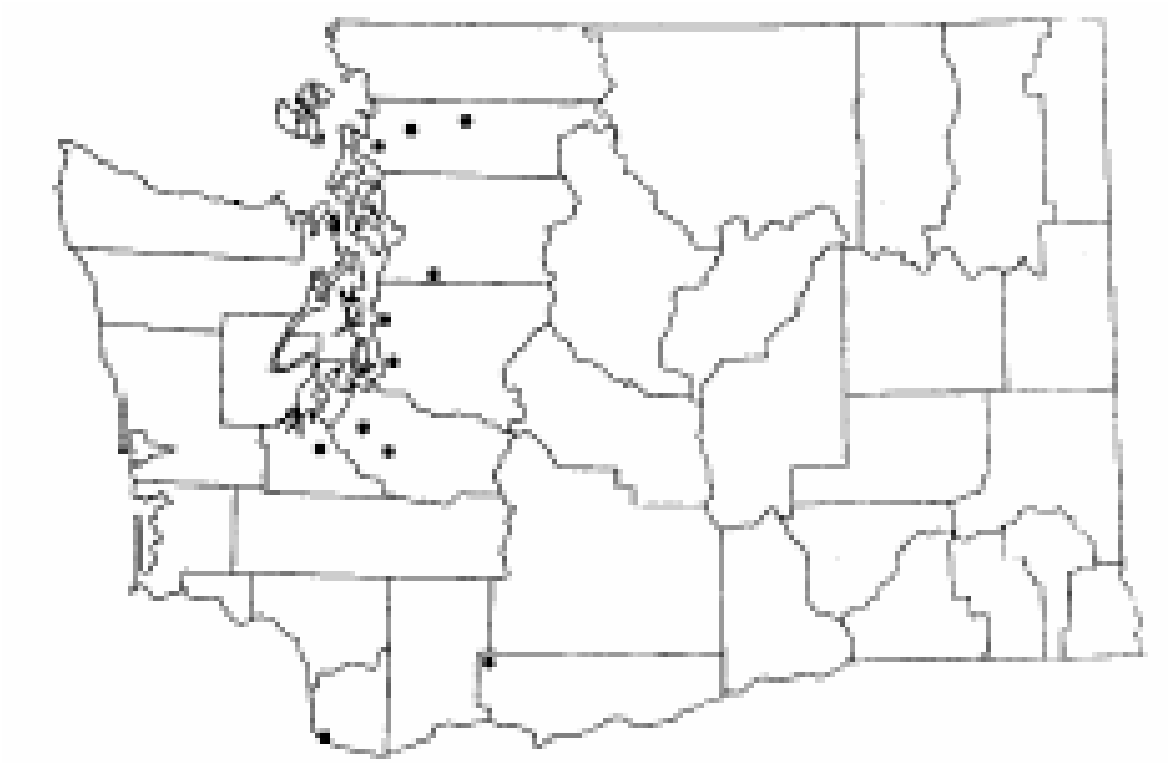

Figure 10-2. Location of Oregon spotted frog populations in Washington known prior to 1990.

Table 10-1. Oregon spotted frog association with wildlife habitats in the Wind River subbasin (IBIS 2004).

Wildlife-Habitat Type	Association	Habitat Requisite	Data Confidence	Comments
Mesic Lowlands Conifer-Hardwood Forest	Present	Feeds	Moderate	Requires shallow water in wet meadows or stream/pond edges with abundant aquatic vegetation for breeding.
Montane Mixed Conifer Forest	Present	Feeds	High	Requires shallow water in wet meadows or stream/pond edges with abundant aquatic vegetation for breeding.
Interior Mixed Conifer Forest	Generally Associated	Feeds	High	Requires shallow water in wet meadows or stream/pond edges with abundant aquatic vegetation for breeding.
Lodgepole Pine Forest and Woodlands	Present	Feeds	High	Requires shallow water in wet meadows or stream/pond edges with abundant aquatic vegetation for breeding.
Open Water - Lakes, Rivers, and Streams	Closely Associated	Feeds and Breeds	High	Rare or absent where predatory fish or bullfrogs occur. Requires shallow water in wet meadows or stream/pond edges with abundant aquatic vegetation for breeding.
Montane Coniferous Wetlands	Present	Feeds and Breeds	High	Rare or absent where predatory fish or bullfrogs occur. Requires shallow water in wet meadows or stream/pond edges with abundant aquatic vegetation for breeding.